

A. CLASSIFICATION OF SUBJECT MATTER
IPC 7 B60R21/01 G01S13/93

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)
IPC 7 B60R G01S

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data, PAJ

C. DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| X | US 6 269 308 B1 (SHINMURA TOMOYUKI ET AL) 31 July 2001 (2001-07-31) | 1,21-24 |
| A | column 2, line 14 - column 3, line 25; figures | 2,25-35 |
| A | ----- US 5 841 366 A (YAMAMOTO YASUNORI ET AL) 24 November 1998 (1998-11-24) | 1-21,35 |
| A | column 1, line 56 - column 2, line 37; figures | |
| A | ----- DE 199 54 536 A (BOSCH GMBH ROBERT) 17 May 2001 (2001-05-17) | 1,2,21, 35 |
| | column 1, line 61 - column 3, line 36; figures | |
| | ----- -/-- | |

☒ Further documents are listed in the continuation of box C.

☒ Patent family members are listed in annex.

* Special categories of cited documents:

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *Z* document member of the same patent family

Date of the actual completion of the international search

7 September 2004

Date of mailing of the international search report

17/09/2004

Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Daehnhardt, A

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

| Category * | Citation of document, with indication, where appropriate, of the relevant passages | Relevant to claim No. |
|------------|--|-----------------------|
| A | US 6 085 151 A (BRUCE MICHAEL P ET AL) 4 July 2000 (2000-07-04) column 4, line 11 - column 5, line 35; figures ----- | 1,2,21, 35 |
| A | PATENT ABSTRACTS OF JAPAN vol. 2000, no. 08, 6 October 2000 (2000-10-06) & JP 2000 142321 A (FUJITSU TEN LTD), 23 May 2000 (2000-05-23) cited in the application abstract; figures ----- | 1,2,21, 35 |
| A | US 5 552 986 A (KOBAYASHI MASAOKI ET AL) 3 September 1996 (1996-09-03) figures ----- | 1,2,21, 35 |
| A | & JP 02 946995 B2 (NISSAN MOTOR) 13 September 1999 (1999-09-13) cited in the application ----- | |
| A | PATENT ABSTRACTS OF JAPAN vol. 2000, no. 07, 29 September 2000 (2000-09-29) & JP 2000 095130 A (TOYOTA MOTOR CORP), 4 April 2000 (2000-04-04) cited in the application abstract; figures ----- | 1,2,21, 35 |
| A | PATENT ABSTRACTS OF JAPAN vol. 0176, no. 97 (M-1532), 20 December 1993 (1993-12-20) & JP 5 238367 A (MAZDA MOTOR CORP), 17 September 1993 (1993-09-17) cited in the application abstract; figures ----- | 1,2,21, 35 |

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. claims: 1(first and third possibility),2-24,35

Provide information about the condition of a detected object
in front of a preceding vehicle.

2. claims: 1(second possibility),25-34

Obtain width-related information of each specific detected
object.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/JP2004/009405

Box II Observations where certain claims were found unsearchable (Continuation of item 2 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

Box III Observations where unity of invention is lacking (Continuation of item 3 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheet

1. ☐ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☒ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☐ No protest accompanied the payment of additional search fees.

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/JP2004/009405

| Patent document cited in search report | | Publication date | Patent family member(s) | Publication date |
|---|----|---------------------|----------------------------|---------------------|
| US 6269308 | B1 | 31-07-2001 | JP 2000062555 A | 29-02-2000 |
| | | | JP 2000067398 A | 03-03-2000 |
| | | | JP 2000067394 A | 03-03-2000 |
| | | | US 2001018641 A1 | 30-08-2001 |
| | | | US 2001016798 A1 | 23-08-2001 |
| US 5841366 | A | 24-11-1998 | JP 9033651 A | 07-02-1997 |
| | | | DE 19629252 A1 | 23-01-1997 |
| DE 19954536 | A | 17-05-2001 | DE 19954536 A1 | 17-05-2001 |
| | | | FR 2801129 A1 | 18-05-2001 |
| | | | JP 2001189000 A | 10-07-2001 |
| | | | US 6653935 B1 | 25-11-2003 |
| US 6085151 | A | 04-07-2000 | CA 2274716 A1 | 23-07-1998 |
| | | | EP 0954758 A1 | 10-11-1999 |
| | | | JP 2002511922 T | 16-04-2002 |
| | | | WO 9832030 A1 | 23-07-1998 |
| JP 2000142321 | A | 23-05-2000 | NONE | |
| US 5552986 | A | 03-09-1996 | JP 2946995 B2 | 13-09-1999 |
| | | | JP 6286581 A | 11-10-1994 |
| | | | DE 4411184 A1 | 06-10-1994 |
| JP 2946995 | B2 | 13-09-1999 | JP 6286581 A | 11-10-1994 |
| | | | DE 4411184 A1 | 06-10-1994 |
| | | | US 5552986 A | 03-09-1996 |
| JP 2000095130 | A | 04-04-2000 | NONE | |
| JP 5238367 | A | 17-09-1993 | JP 3230832 B2 | 19-11-2001 |